AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A programmable radio comprising:

(a)   at least two functional modules, the at least two functional modules executing programmed instructions to provide respective functional aspects of the radio, wherein:

at least one of the modules receives a stream of input data and segments the stream of input data into data packets, and

a second of the modules receives the data packets into buffers therein and assembles the data packets from the buffers for transmission from the radio as a stream of output data corresponding to the stream of input data; and

(b)   an internal network connecting the at least two functional modules, communications of the data packets between the at least two functional modules over the internal network conforming to packet network protocols, wherein

the packet network protocols are chosen from a category of packet network protocols consisting of a User Datagram Protocol, a Transmission Control Protocol, a RealTime Protocol, a Dynamic Host Configuration Protocol, a Bootstrap Protocol, a File Transfer Protocol, a Trivial File Transfer Protocol, a Simple Network Management Protocol and a Domain Name System.

2. (Original) The radio of claim 1, wherein the internal network is chosen from a category of networks consisting of an Ethernet network, an asynchronous transfer mode network, a token ring network and a resilient packet ring network.

3. (Original) The radio of claim 2, wherein the packet network protocols are chosen from a category of packet network protocols consisting of an Internet Protocol suite and a set of network standards conforming to IEEE 802.

4. (Original) The radio of claim 3, wherein the Internet Protocol suite is chosen from a category of Internet Protocol versions consisting of an Internet Protocol version 4 and an Internet Protocol version 6.

5-7. (Cancelled)

8. (Currently Amended) The radio of claim [[7]] 1, wherein the packet network protocols implement network functions chosen from a list of network functions consisting of:

(a) assigning addresses to the functional modules;

(b) maintaining a listing of the functional aspects of the radio and the at least one functional module associated with the functional aspects;

(c) loading the programmed instructions into the at least one functional module;

(d) controlling the execution of the programmed instructions within the modules;

(e) monitoring the status of the modules; and

(f) replacing a failed one of the functional modules with a replacement module and loading the programmed instructions of the failed module into the replacement module to provide the functional aspect of the failed module.

9. (Currently Amended) The radio of claim [[7]] 1, wherein the packet network protocols facilitate conveying real time streaming media between modules.

10. (Currently Amended) The radio of claim 9, wherein the stream of input data comprises real time streaming media:

~~(a) aleast one module receives real time streaming media and segments the real time streaming media into data packets for communication over the internal network; and~~

~~(b) a second module receives the data packets into buffers therein and assembles the data packets from the buffers for transmission from the radio as a stream of output data corresponding to the real time streaming media.~~

11. (Original) The radio of claim 1, wherein the internal network further comprises a network bus, the at least two functional modules having a connection to the network bus.

12. (Original) The radio of claim 1, wherein the at least two functional modules are connected in series to form the internal network.

13. (Original) The radio of claim 1, wherein the internal network further comprises a central hub located within at least one of the at least two functional modules, other modules connected to the central hub.

14. (Previously Presented) The radio of claim 1, wherein the at least two functional modules further comprise:

respective network controllers and respective network connectors adapted for communicating according to the packet network protocols.

15. (Previously Presented) The radio of claim 1, wherein the at least two functional modules further comprise:

(a) respective memory units storing the programmed instructions for the at least two functional modules; and

(b) respective processing units executing the programmed instructions.

16. (Original) The radio of claim 1, wherein the internal network facilities conveying real time streaming media between the at least two functional modules.

17. (Canceled)

18. (Original) The radio of claim 1, wherein the internal network facilitates the addition and removal of the at least two functional modules by connection to and disconnection from the internal network, respectively.

19. (Original) The radio of claim 1, wherein the internal network is implemented over at least one of a twisted pair, a cable, a fiber and a wireless link.

20. (Original) The radio of claim 1, wherein the network assigns addresses to the at least two functional modules.

21. (Original) The radio of claim 1, wherein the network maintains a listing of the functional aspects of the radio and at least one functional module associated with the functional aspects.

22. (Original) The radio of claim 1, wherein the network facilitates loading the programmed instructions into the at least two functional modules.

23. (Original) The radio of claim 1, wherein the network controls the execution of the programmed instructions within the at least two functional modules.

24. (Original) The radio of claim 1, wherein the network monitors the status of the at least two functional modules.

25. (Original) The radio of claim 1, wherein the network facilitates replacement of a failed one of the at least two functional modules with a replacement module, the network loading the programmed instructions of the failed module into the replacement module to provide the functional aspect of the failed one of the at least two functional modules.

26. (Currently Amended) A computer-readable medium containing instructions for controlling a computer system to implement a programmable radio, by:

      (a) controlling at least two functional modules of the radio to execute instructions to provide respective functional aspects of the radio, wherein controlling the at least two functional modules includes:

            controlling at least one of the modules to receive a stream of input data and segment the stream of input data into data packets, and

controlling a second of the modules to receive the data packets into buffers therein and assemble the data packets from the buffers for transmission from the radio as a stream of output data corresponding to the stream of input data; and

(b) controlling packet network protocols on an internal network connecting the at least two functional modules to provide communications of the data packets between the at least two functional modules over the internal network; wherein

the packet network protocols are chosen from a category of packet network protocols consisting of a User Datagram Protocol, a Transmission Control Protocol, a RealTime Protocol, a Dynamic Host Configuration Protocol, a Bootstrap Protocol, a File Transfer Protocol, a Trivial File Transfer Protocol, a Simple Network Management Protocol and a Domain Name System.

27. (Original) The computer-readable medium of claim 26, wherein controlling the computer to implement a radio further comprises controlling the internal network to be implemented as a network chosen from a category of networks consisting of an Ethernet network, an asynchronous transfer mode network, a token ring network and a resilient packet ring network.

28. (Original) The computer-readable medium of claim 27, wherein controlling the computer to implement a radio further comprises controlling the computer to choose the packet network protocols from a category of network protocols consisting of an Internet Protocol suite and a set of network standards conforming to IEEE 802.

29. (Cancelled)

30. (Currently Amended) The computer-readable medium of claim 2926, wherein controlling the computer to implement a radio further comprises controlling the computer to implement network functions chosen from a list of network functions consisting of:

(a) assigning addresses to the functional modules;

(b) maintaining a listing of the functional aspects of the radio and the functional modules associated with the functional aspects;

(c) loading the instructions into the functional modules;

(d) controlling the execution of the instructions within the modules;

(e) monitoring the status of the modules; and

(f) replacing a failed one of the functional modules with a replacement module and loading the instructions of the failed one of the functional modules into the replacement module.

31. (Currently Amended) The computer readable medium of claim 30, wherein the stream of input data comprises real time streaming media controlling the computer to implement network functions further comprises:

—(a) controlling at least one module to receive real time streaming media and segment the real time streaming media into data packets from communication over the internal network; and

—(b) controlling a second module to receive the data packets into buffers therein and assemble the data packets from the buffers for transmission from the radio as a stream of output data corresponding to the real time streaming media.

32. (Currently Amended) The computer-readable medium of claim 2926, wherein the stream of input data comprises real time streaming media controlling the computer to implement a radio comprises:

—(a) controlling at least one module to receive real time streaming media and segment the real time streaming media into data packets for communication over the internal network; and

—(b) controlling a second module to receive the data packets into buffers therein and assemble the data packets from the buffers for transmission from the radio as a stream of output data corresponding to the real time streaming media.

33-37. (Canceled)

38. (Currently Amended) A method for operating a programmable radio having at least two functional modules, comprising:

providing, by the at least two functional modules, respective functional aspects of the radio,

controlling at least one of the modules to receive a stream of input data and segment the stream of input data into data packets,

controlling a second of the modules to receive the data packets into buffers therein and assemble the data packets from the buffers for transmission from the radio as a stream of output data corresponding to the stream of input data,

providing an internal packet network between the at least two functional modules, and

controlling packet network protocols on the internal packet network to communicate the data packets between the at least two function modules, wherein

the packet network protocols are chosen from a category of packet network protocols consisting of a User Datagram Protocol, a Transmission Control Protocol, a RealTime Protocol, a Dynamic Host Configuration Protocol, a Bootstrap Protocol, a File Transfer Protocol, a Trivial File Transfer Protocol, a Simple Network Management Protocol and a Domain Name System.

39. (Original) The method of claim 38, wherein providing the internal packet network comprises choosing the internal packet network from a category of internal packet networks consisting of an Ethernet network, an asynchronous transfer made network, a token ring network and a resilient packet ring network.

40. (Cancelled)

41. (Currently Amended) The method of claim 4038, wherein controlling the packet network protocols further comprises implementing network functions chosen from a list of network functions consisting of:

(a) assigning addresses to the functional modules;

(b) maintaining a listing of the functional aspects of the radio and the functional modules associated with the functional aspects;

(c) loading the instructions into the functional modules;

(d) controlling the execution of the instructions within the modules;

(e) monitoring the status of the modules; and

(f) replacing a failed one of the functional modules with a replacement module and loading the instructions of the failed one of the functional modules into the replacement module.

42. (Currently Amended) The method of claim 41, wherein <u>the stream of input data comprises real time streaming media</u> implementing network functions further comprises:
 (a) controlling at least one module to receive real time streaming media and segment the real time streaming media into data packets for communication over the internal network; and
 (b) controlling a second module to receive the data packets into buffers therein and assemble the data packets from the buffers for transmission from the radio as a stream of output data corresponding to the real time streaming media.

43. (Currently Amended) The method of claim 4038, wherein <u>the stream of input data comprises real time streaming media</u> controlling the packet network protocols further comprises:
 (a) controlling at least one module to receive real time streaming media and segment the real time streaming media into data packets for communication over the internal network; and
 (b) controlling a second module to receive the data packets into buffers therein and assemble the data packets from the buffers for transmission from the radio as a stream of output data corresponding to the real time streaming media.

43-47. (Canceled)

48. (Previously Presented) The programmable radio of claim 1, wherein the at least two functional modules are joined by a single backplane.

49. (Currently Amended) A programmable radio comprising:
  (a) at least two functional modules, wherein
   i) the at least two functional modules execute programmed instructions to provide respective functional aspects of the radio,

ii) at least one of the modules receives a stream of input data and segments the stream of input data into data packets,

iii) a second of the modules receives the data packets into buffers therein and assembles the data packets from the buffers for transmission from the radio as a stream of output data corresponding to the stream of input data, and

~~ii)~~ iv) the at least two functional modules include respective network controllers adapted for communicating among the at least two functional modules according to packet network protocols; and

(b)   an internal network adapted for packet network protocol communication connecting the at least two functional modules.

50. (Previously Presented) The radio of claim 49, wherein the internal network is chosen from a category of networks consisting of an Ethernet network, an asynchronous transfer mode network, a token ring network and a resilient packet ring network.

51. (Previously Presented) The radio of claim 49, wherein the packet network protocols are chosen from a category of packet network protocols consisting of an Internet Protocol suite and a set of network standards conforming to IEEE 802.

52. (Previously Presented)   The radio of claim 49, wherein the at least two functional modules further comprise:

respective memory units storing the programmed instructions for the at least two functional modules; and

respective processing units executing the programmed instructions.

53. (Previously Presented) The radio of claim 49, wherein the internal network is implemented over at least one of a twisted pair, a cable, a fiber and a wireless link.

54. (Currently Amended) A computer-readable medium containing instructions for controlling a computer system to implement a programmable radio, by:

controlling at least two functional modules of the radio to execute instructions to provide respective functional aspects of the radio, wherein controlling the at least two functional modules includes;

controlling at least one of the modules to receive a stream of input data and segment the stream of input data into data packets, and

controlling a second of the modules to receive the data packets into buffers therein and assemble the data packets from the buffers for transmission from the radio as a stream of output data corresponding to the stream of input data; and

controlling respective network controllers of the at least two functional modules to implement packet-based communication protocols, thereby providing packet network connectivity over an internal network connecting the at least two functional modules.

55. (Previously Presented)   The computer-readable medium of claim 54, wherein controlling the computer system comprises controlling the internal network to be operated as a network chosen from a category of networks consisting of an Ethernet network, an asynchronous transfer mode network, a token ring network and a resilient packet ring network.

56. (Previously Presented)   The computer-readable medium of claim 54, wherein implementing packet-based communication protocols comprises implementing a packet network protocol consisting of an Internet Protocol suite and a set of network standards conforming to IEEE 802.

57. (Previously Presented)   The method of claim 38, further comprising assigning respective network addresses conforming to the packet network protocols to the at least two functional modules.